INDUSTRIAL NURSE

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Industrial Nurse

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Effects of a Dental Program

MRS. LEEDKE'S report (page 400) on the first year's operation of Thilmany Pulp & Paper Company's dental program is the story of one of those rich human-interest experiences which so often are the privilege of the industrial nurse. Such an experience goes deep into the heart of the problem of health in industry; it encounters the personal equation in the maximum expression of its humanness. If all health efforts could get as close to the individual employee as this one did, the general proposition of ill-health from whatever cause, and its corollaries of absenteeism and inefficiency, would be much easier to handle, not only from the medical standpoint but the management as well. This is borne out in the sequel to this dental program. A supplemental letter from MRS. LEEDKE says: "A survey of our health experience for the first five months of 1942 as compared to the same period of 1941—during four months of which our dental program was in operation—shows a reduction so far this year of 97 days in our lost time from industrial accidents and 721 days in our lost time from health or illness causes. As our average wage was about $5.50 per day, this represents a wage saving of $3965.50 to our employes." This dental program, of course, was part of a general program of defect correction. But with 40% of all the employees having dental defects and two-thirds of those undertaking their correction, there can be no doubt as to the fact that a substantial portion of the lost time reduction was directly due to the dental program.

National Unified Prevention

MARGARET M. BIPPUS, R.N., Industrial Nurse, Servel, Inc., Evansville, Indiana, asks the cooperation of industrial nurses in a good cause:

"We salute another battle front that never makes the headlines, no brass-band or bugle call, gold-lace or chesty decorations. It's the industrial nurses, who, in addition to their other duties, are daily handing out leaflets, quietly advising prompt and immediate attention to that mysterious lump in the breast, that little persistent sore on the lip that resists all home treatments. "With gradual loss of weight, these symptoms are fore-runners of that dread disease—cancer. Through the literature issued by the American Society for the Control of Cancer, we teach each individual we contact to join the industrial nurses in the fight against cancer.

"Safety engineers, specialists and doctors have enlisted the service of the Women's Field Army of the American Society for the Control of Cancer. 'We can do much. We are doing much.' We are going to do more. Industrial nurses, won't you join us in our efforts?"

Report of a Dental Program

—February, 1941, through January, 1942—

HAZEL H. LEEDKE, R.N.,
First Aid Department,
Thilmany Pulp & Paper Company,
Kaukauna, Wisconsin

A PHYSICAL examination program was inaugurated by our company in 1938, at which time every employee was examined, and since which a physical examination of each new employee has been our policy. At the time of the general plant examination each man was notified of his defects. The records, however, failed to reveal a consistent effort toward improvement, and so, in February, 1941, a program of defect correction was begun, with special emphasis on teeth and eyes.

This report deals with the *dental* program—carried on in the face of considerable discouraging and pessimistic opinion regarding its successful outcome.

Inquiries of doctors, dentist, nurses and industrial men failed to reveal a method for a successful dental program in which the company offered no help toward defraying the cost of work, or where there was no insurance plan offered, or without considerable reduction in fees. Our manager suggested a meeting with local dentists to discuss the need for a dental plan, and to see if one could be arranged. He also suggested inviting the credit union president to this meeting to determine in what way, if any, the credit union could assist. In January, 1941, the local dentists, our credit union president, and I met to discuss plans, believing that our biggest problem was the financial side. To make an appeal to the worker a financial inducement must be offered; he must be given a plan for paying for his work if he needs it, or he must have a discount or reduction in fees to make the program attractive enough to take part in. The dentists agreed to a minimum scale of prices, with a 10% discount for cash; the credit union waived all restrictions against employees whose credit was in default and reinstated them for borrowing in cases of dental or eye correction.

It seems proper to digress for a moment to record the facts brought out in general discussion of the need of industrial dental hygiene and the lack of interest on the part of the dental profession toward it. The dentists admitted that there had been too little concern by their profession regarding dental health, especially in relation to the health of the industrial worker. They bemoaned the lack of dental hygiene education, and blamed their own profession. The challenge has been carried to them, rather than being initiated by them. This opinion coincided with that of DR. E. W. MILLER, Medical Director of the Milwaukee Electric R. R,, and DR. GOLDHORN, Dentist for the Pullman Company, both of whom spoke before nurses' meetings last year, DR. MILLER at the Wisconsin Industrial Nurses Symposium, and DR. GOLDHORN at the Industrial Nurses Section of the National Safety Congress.

In order to keep accurate records of the amount and kind of work done, a form was devised, copied in most part from one used by a neighboring industry. In that industry, however, financial aid is given toward this kind of care. This form, referred to as the "dental slip," indicated that John Jones was an employee of our company and was entitled to special rates and discounts, as arranged with the local dentists. In order to facilitate control of these dental slips a stub was kept for each slip. This could be referred to and checked to show how many and which ones were outstanding, and to keep informed on the progress of the work. It must be remembered that only in a few instances is all dental work done on the first visit to the dentist. In total extractions and the fitting of dentures the time is often extended over months. The stub of the dental slip indicated the date issued, the name of the employee, the name of the dentist, and, if the work was to extend for a long time, a notation to that effect on the stub in order to avoid too frequent checking with the employee. When the work was completed and the slip returned to the nurse, this was so indicated on the corresponding stub, and then the slip was filed with the employee's physical examination record. Regular monthly re-checks were made on outstanding slips—except in the cases of extensive dental work which was known to require a long time to complete. The dentists' offices became so busy that work had to be extended over longer than normal periods. Of course there were a few laggards who needed frequent prodding to keep up with their work until it was completed.

This program began with February, 1941, and ran simultaneously with a general health program directed toward defect correction; 529 health interviews were held, giving special attention to eyes and teeth. The persons interviewed were those whose physical examination records indicated need for defect corrections and who had not taken care of them. A few were picked up from observation in the first aid room. No doubt there could be more found, for it is reasonable to suppose that in the space of three years more cases of dental defects have developed.

TABLE I.

Average number of employees in the mill	1069
Total number needing dental care, according to physical examination records	437
Total number cooperating in the program (who used dental slips)	291
Total number who had care but did not cooperate in the program by using the dental slip	11
Total number who are known still to need care	135

Table 1 gives a general picture of the mill personnel, the number needing care, the number receiving attention, and the size of the job left to complete the program. The average mill population for 1941 was 1069. Of these, 437, or about 40%, needed attention; and 291 cooperated in the program by using dental slips. Eleven had dental work done by out-of-town dentists who did not participate in the plan. Thus this amount of work, cost, etc., could not be recorded, or else the employee refused a dental slip or refused to report the amount of work done and the cost. The latter, however, was true in only one instance; the work was self-evident, since there were total extractions and dentures. Seven persons voluntarily had dental examinations but needed no care and have not been counted in this report.

It should be said here that all new employees must start their dental work, if needed, before employment, and must continue it after employment until it is completed. If it is not finished at the end of the first month, the man is checked on to learn why not, and if he does not have a very good reason (such as too extensive work to complete, a new baby, or something else of equal importance) he must discuss the situation with the head of the industrial relations and personnel department. Every effort is made to assist the new employee to make financial arrangements to get his dental work done, and the dentists have cooperated in a most satisfactory manner.

Presented at the May 16, 1942, Industrial Nursing Session of the Chicago Biennial Convention.

TABLE II.

Number of dental slips issued	311
Number of dental slips duplicated	20
	291
Number of dental slips returned—work complete	213
Number of dental slips returned—work incomplete	3
Number of dental slips lost, work complete	4
Number of dental slips not returned—work still in progress	71
	291

In Table 2 the term "dental slip" has been used. The table has been prepared and the term "dental slip" employed because, at the time this form was made up and the program planned, I was advised that it would be practically impossible to keep accurate control of such records and measure the amount of correction obtained.

Three hundred and eleven dental slips were issued, 20 of which were duplicated for various reasons—such as having gone into the washing machine in an overall pocket, or having been accidentally misplaced at home or mislaid in the dentist's office—but in all instances under conditions which appeared to warrant consideration. Therefore, 291 actually participated in the program.

At the end of January 31, 1942, 213 slips had been returned with all work completed as advised by the dentist. Three others were returned incomplete—cases where the employee refused to have all the work indicated but had done considerable to improve his condition. In four more cases the slips were so carelessly handled that they were not duplicated. One boy deliberately tore his up, but the work—amount, etc.—was confirmed by the denist. At the end of January, 1942, 71 slips remained out, with work in progress.*

TABLE III.

Amount of bills without discount	$3,232.00
Amount of discount	167.30
Amount of actual cost to employees	3,064.70
Average amount per case	10.50
Maximum of any single bill	120.00
Amount lent by the credit union	1,516.00

Table 3 deals with the cost of this program, the discount given, the final cost to the employees, and the amount borrowed from the credit union. The program involved $3,232.00 worth of dental work; the discount was $167.30; the total expenditure by the employees was $3,064.70; and $1,516.00 was lent by the credit union. However, in some instances old bills were paid up and part of the new bill, which may account for the low amount of discount. The average cost per employee was $10.50; the largest single bill was $120.00.

TABLE IV.
TYPE AND AMOUNT OF DENTAL WORK

		Dentures				
Single Extractions	Extractions without denture	No. upper plates	No. both plates	Dentures without slips upper	both	Without a dentist
112	4	9	19	2	1	1
Restorations		Prophylaxis			No. having x-rays	
324		147			10	

Table 4 was compiled to find out just what was done for all the money expended. It was learned that there were 112 single extractions. These did not include total extractions in which, for one reason or another, dentures were not obtained. Nine got upper plates, 19 both plates; 324 had a variety of restorations from simple fillings to extensive bridge work; and 147 had prophylaxis, six being the greatest number of treatments to a single individual in the latter group. There seemed to be no point in showing the extractions, restorations, and prophylaxis per individual, although many had all three types of work. It was thought, however, to note, among those not using a dental slip, that there were dentures in two cases, since they were two especially needing care; that one man flatly refused to take a dental slip or tell what his work cost; and that another pulled some of his own teeth and took his own impression, which he sent to a mail order house where he purchased his dentures for $22.50. This man claims he has the best fitting set of teeth in the mill.

While we do not know the relation of dental defects to industrial accidents, as to how much they affect the severity and delay recovery, it was thought interesting to review, separately, all the medical and disabling cases reported in this mill during 1941 to see what such an investigation would reveal. Table 5 deals with that part of the report.

TABLE V.
DENTAL AND EYE DEFECTS FOUND IN MEDICAL AND DISABLING CASES OF 1941 (INDUSTRIAL)

Medical cases (not disabling)			Medical cases (disabling)		
No. of Cases	No. with Dental Defects	No. with Eye Defects	No. of Cases	No. with Dental Defects	No. with Eye Defects
123	54	23	29	11	7

Of the 123 industrial injury cases requiring medical care, but which were not disabling, 54, or 43.9%, showed need for dental care; of the 29 disabling injury cases, 11, or almost 38%, showed need for dental attention.

SINCE an eye program was running concurrently with the dental program, it was found that, of those participating in the dental program, 15 had eye corrections. DR. HEDWIG S. KUHN, Secretary of the Joint Industrial Committee of the A.M.A. and the Academy of Ophthalmology, in her paper "Eyes for the Job," given before the Industrial Nursing Section of the National Safety Congress in 1940, reported investigations showing a correlation between eye defects and disabling injuries in a large steel mill. Our investigation into the eye defects as well as the dental defects in medical and disabling cases showed 23, or 18%, of the doctor cases with eye defects, and seven, or 23%, of the disabling cases with eye defects. While this information is not pertinent to this report, it could easily be obtained at the time of checking on dental defects and might as well be included as part of a defect correction program. And, too, it might aid in ascertaining if there is a relationship between defects and injuries.

This program has been conducted without coercion or compulsion. It has been entirely a matter of education and persuasion. Excellent charts displaying dental defects and their influence upon the body organs seemed very effective. Most of the results, however, were obtained through personal contact and discussion of the individual's defects. Some literature was distributed, by means of payroll inserts; announcements of the plan was made through this medium. The management was interested in the program and cooperated whenever called upn for advice and consultation.

At all times special consideration was given when the employee had illness in the home or any other type of trouble which bore upon his ability to get dental work done. No one was unduly pressed, and this was always explained to the employee at the time of interview. Many, many reasons were given for not wanting

*Between January 31, 1942 (the end of the period covered in this report) and May 16, 1942, 41 more have had their dental work completed, at a total cost of $775.00.

to get the work done. Probably the most difficult one to overcome was the fear of the dentist. Some said their teeth didn't hurt them, and that they couldn't see why they should go to a dentist. One person visited first one dentist then another to get some one to say he didn't need total extractions, but no one did, and today this man has not yet had the much needed extraction of his infected teeth. Only two dodged proper care by getting different opinions from different dentists; naturally they took the advice they wanted to hear. One of the sad observations made during this program was the attitude of the young men toward dental care. They seemed so willing to neglect their teeth and as they ached "get them pulled." At the end of the year's work (1941), however, there seemed to be a change of attitude among the younger men, and it is believed that the educational part of this program did something for them.

On the whole the response to our program has been most gratifying. A few flatly refused to listen, but there are hopes of winning over even those. The many pleasant things related after an employee has once more attained a clean healthy mouth reward one for all the hard work to make such a program useful. One youth I shall never forget. He had beautiful teeth which were thickly covered with tartar and film (as reported by the dentist). After his teeth were cleaned he commented on how clean and good-tasting his mouth felt. It was learned that this 23-year-old boy had never washed his teeth in his life. Now he is happy in the knowledge of how a clean mouth feels.

Special mention should be made of the splendid cooperation of the participating dentists. While the program has admittedly brought an added volume of work to the dentists' offices, with compensatory remuneration, they have had increased work in filling out the slips, seeing that the men returned the slips to the mill nurse, and answering frequent telephone calls as the nurse checked the progress. Their efforts have been appreciated in making possible such an accurate recording of the amount of work accomplished.

This program will continue through the year 1942, and it is my hope that we may ultimately claim good dental health for *all* employees of the Thilmany Pulp & Paper Company.

In planning a dental program, there are a few points to remember which, I believe, will mean the difference between success and failure. These are:

1. Get the support of your management before you start.
2. Discuss your plan with the local dentists and get their cooperation.
3. You must have some authoritative source for your request to get dental care, either from the examining physician, or the dentist.
4. The employee must be educated to his needs, in order to secure his willingness to go to the dentist.

Texas Institute

THE Industrial Nursing Section of the State Organization of Public Health Nursing will hold a one-day Institute at Houston, Texas, on October 17, 1942. The industrial nurses in Houston will be hostesses. The program is planned to have the following speakers:

MR. C. W. WOOLDRIDGE, Assistant to Vice-President, Texas Power & Light Company, Dallas, Texas, whose subject will be "Achievement of Industry in War Production," and DR. CARL A. NAU, Professor of Physiology, Medical School, University of Texas, Galveston, who will cover "Industrial Health, and Changes Made Recently to Improve Health and Working Conditions in Industry." A member of the Texas State Industrial Accident Board will discuss the compensation laws.

An invitation is extended to all interested in industrial nursing to attend.

Western Association

RUTH MELSOME TAYLOR, A.B., R.N.,
Crockett, California

OUR INDUSTRIAL NURSES have a monthly dinner meeting, and they are always well attended and stimulating, though this year the attendance rate has not been quite as high and the nurses look tired. Almost all of the industries represented in our Association have enlarged their nursing staffs, owing to the increase in work. This would naturally be true in any industries connected with war work, but it is also true of those not so engaged. Young employees are entering the armed forces, older employees are in many cases going to the "defense industries." All industries, therefore, are facing a tremendous change in personnel, which, of course, places an additional load on the medical departments.

At one of our industries a great many women employees have been put on jobs formerly held by men. One of these stations has always been a source of complaint from the male employees because of the heat. It is connected with the bag laundry, the women employees seem to be doing the work with less complaint and greater efficiency. Whether women are really better suited to this particular work or whether the lack of complaints and increased efficiency are due to war morale is a question which only time can answer.

One of the new members of our Industrial Nurses' Association is MR. CARL BOSTRUM, of the Hall-Scott Motor Car Company, in Berkeley. MR. BOSTRUM is a retired Navy man; he was a First-Class Pharmacist Mate in the Navy. He was our guest speaker for the month of April, and has since joined our organization. His address was interesting and colorful. We all felt after listening to him that there could be no better preparation for the field of industrial nursing than that of such training as his. Any pharmacist mate may take the examinations for registered nurse in whatever state he may be, and there is little doubt that after the years and experience required to reach that rating in the Navy, these men should pass the examinations of any state with flying colors. Mr. Bostrum also does some personnel work for his employer. We are delighted with his membership.

For our June meeting we had no formal program but were each to give a brief sketch of any articles we had read recently touching the field of industrial medicine. This was a most enjoyable meeting, but the striking part of it was that almost every article selected for report was on the same subject, though the sources were wide and varied. The subject was increased working hours and increased production; in every instance the conclusion had been drawn that longer working hours resulted in increased absenteeism and by no means a proportionate increase of production. From an English medical source it was shown that incentive was as great a factor in increased production as time. After Dunkirk there was a general increase in production throughout England, most plants increased the work hours, but in one industry where there was no increase of hours the output went up 15%, and later in this same industry the work hours were decreased and there was another rise in production.

Emergency Field Kit

—First Aid on the Scene—

SOLVING a problem that had harassed and baffled Britain's doctors and ambulance workers during air raids—the carrying of first-aid materials to the scene of attacks—an American nurse, MRS. CLEMENTINE CAMPIGLIA, Chief of Nurses in the Medical Department of Douglas Aircraft Company, Santa Monica, California, invented the light, compact, waterproof and portable emergency field kit for doctors and nurses illustrated on this page.

Equipped with more than 30 items, many of which are in multiples, the nurse's kit weighs four pounds in all, the doctor's six pounds. The kit is suspended on straps over the shoulders; can be worn on the back until arrival at scene. It is then to be turned around and opened as an apron. Although the wearer may be kneeling down, the kit does not get in the way, and leaves both hands free. So complete are these units, they provide sufficient sterile equipment for the performance of emergency surgical operations. From one compartment, for instance, 30 feet of gauze can be unfolded as desired.

Many kits already are on hand and in readiness at the several Douglas plants; others are being used by local ambulance units and civilian defense groups. Illustrating their use are LT. VIRGINIA GILL, of the Women's Ambulance and Defense Corps, and DR. GRANT F. KEARNS, of the Douglas Aircraft medical staff. The kits are fitted as follows:

DOCTOR'S KIT:
- 8 Eye pads
- 2 Tubes—Butyn and Metaphen eye ointment
- 1 Tube Pontocaine eye ointment
- 2 Oz. castor oil
- 1 Hypo with needles
- 1 Package of cotton balls
- 1 Bottle liquid M.S.
- 1 Bottle tablets M.S.
- 6 Safety pins
- 1 Pair bandage scissors
- 1 Hemostat
- 1 Thumb forceps
- 1 Roll ½ in. adhesive tape
- 1 Box stimulants as follows:
  - 3 Amyl. nitrite sperets
  - 2 Amps. 1 cc. adrin. sol.
  - 2 amps. 2 cc. caffeine with sodium benzoate
- 4 Oz. alcohol
- 1 Scratch pad
- 1 Water bottle—covered
- 2 Tourniquets and drinking tube combined
- 6 Tongue blades
- 3 Splints
- 2 Triangular bandages
- 18 Tags
- 1 Pencil
- 1 Flashlight (pencil type)
- 2 3 in. bandage rolls
- 2 2 in. bandage rolls
- 2 1½ in. bandage rolls
- 2 1 in. bandage rolls
- 2 Sterile towels
- 1 Suture set—containing:
  - 1 Package 6 No. 10 Bard-Parker blades
  - 1 Bard-Parker No. 3 handle
  - 1 Straight hemostat
  - 1 Curved hemostat
  - 1 Large scissors
  - 1 Small scissors
  - 1 Thumb forceps
  - 1 Splinter forceps
  - 1 Needle holder
  - 1 Tube plain 00 Dermal
  - 1 Roll No. 6 Silk
  - 6 Suture assorted needles
  - 6 Sterile gauze sponges 3 in. x 3 in.
  - 6 Gauze sterile sponges 2 in. x 2 in.
  - 1 Package 3 in. x 3 in. sterile sponges
- 4 Oz. ½ and ½ sulfathiazole crystals and powder

NURSE'S KIT:
- 2 Triangular bandages
- 2 Tourniquet and combination drinking tubes
- 3 Splints
- 6 Tongue blades
- 18 Tags
- 1 Water bottle—covered
- 6 Eye pads
- 2 Oz. castor oil
- 2 Tubes Butyn and Metaphen eye ointment
- 1 Tube Pontocaine eye ointment
- 1 Hypo with needles
- 1 Package cotton balls
- 1 Bottle liquid M.S.
- 6 Safety pins
- 1 Pair scissors
- 1 Hemostat
- 1 Thumb forceps
- 1 Pencil
- 1 10 yds. continuous fan-folded gauze dressing
- 4 Oz. sulfathiazole crystals and powder mixed
- 1 Scratch pad
- 3 Amps. amyl nitrite
- 2 1 cc. amps. adrin. solution
- 2 2 cc. caffeine with sodium benzoate
- 4 Oz. alcohol
- 1 Roll adhesive tape
- 2 3 in. Bandage rolls
- 2 2 in. Bandage rolls
- 2 1½ in. Bandage rolls
- 2 1 in. Bandage rolls
- 1 Lighter (pencil type)

Services for the Small Plant

NOTES from the joint sessions of the Industrial Hygiene and Public Health Nursing Sessions, Seventieth Annual Convention A.P.H.A.

MR. JOHN BUXELL, Chief Engineer, Industrial Hygiene Service, City of St. Louis Health Division, spoke on "Engineering Services in Small Plants." For this discussion, the small plant may be re-defined as one employing less than 100 persons. Both the frequency and severity rates of accidents are found to be higher

in the small plants, and probably the same condition applies to sickness rates and frequency. A chart of the St. Louis experience on engineering, medical and nursing services showed an increase in such services, proportional to size. For instance, safety directors were found in 2.4% of the small plants and 44.4% of the large plants; nursing services in 0.8% of the small plants and 28.6% of the large plants; physicians in 1.3% of the small plants and 23.7% of the large plants; none of the above services was present in 96.5% of the small plants and 49.2% of the large plants. It is evident, therefore, that health services on any notable scale are not now being rendered in the smaller groups. It is equally evident that such services must be of a cooperative type, possibly through subsidy or on a pro rata basis. It was especially emphasized that the engineer already has entree to the small plants, but that this is more difficult for the physician. Conditions as usually found sometimes necessitate training persons in other activities besides their own, thus providing a special field for a balanced program in smaller groups. Certain preformed ideas or assumptions must be overcome; among them (1) prejudice against the agencies supplying the service; (2) that the program is altogether an occupational disease program; and (3) peculiar ideas with regard to servicing large numbers of small plants. A complete educational program for the smaller group is no simpe matter, but it can be accomplished through direct contact and publications. The real difficulties are administrative.

DR. CRIT PHARRIS discussed the problem of "Medical Services in Small Plants." The criteria for grouping plants are not too clear. Such criteria might depend on the number of employees, the size of the buildings, the intricacy of the problems of production, and other similar considerations. The matter of difference between the large plant and the small one is one of quantity rather than quality of service. There should be included (1) pre-employment and periodic examinations; (2) treatment of occupational diseases and occupational injuries; (3) inspections and medical supervision; (4) studies of cause and effects of accidents and absenteeism, and other studies with emphasis on prevention. If the plant is so small that it believes that it cannot afford a full-time nurse, nursing service should be given on a part-time basis. Examples were cited of experiences in Connecticut where there is an efficient plan of determining what facilities are available. It is of vital importance to put medical and nursing services on a higher standard of practice in small industrial groups, and, furthermore, it is wise to cooperate with labor.

RUTH M. SCOTT, R.N., presented the subject "Nursing Services in Small Plants—with Particular Reference to State Health Department Nursing Consultant Service." There is a very definite trend of small plants to employ nurses. Within a year, six states have appointed industrial nursing consultants, now making a total of seven. The industrial nursing consultant can function (1) by teaching other nurses and supervisors what she has learned; (2) assistance on special problems; (3) in assisting non-official agencies in rendering part-time service. An example was given from experience where there was considerable difficulty in getting cooperation in a very small industrial group. However, after the election of the superintendent of this plant to the County Tuberculosis Board, conditions of cooperation became radically different. Emphasis was placed upon the availability and opportunity to get information on industrial nursing from courses, seminars, meetings, and other types of dissemination. It was stated finally that industrial health programs should extend beyond defense.

ZULA A. COLQUITT, R.N., in concluding the session, spoke on "Absenteeism Follow-Up in Industrial Nursing Services." Experience was detailed in a 16-year-old textile plant in Alabama. In this group, the examination is first made when the applicant presents himself for employment. Venereal disease is accepted in the usual way, along with other defects. There is a clinic from 8:00 A.M. to 5:00 P.M., and a visiting nursing service during the same period. Treatment is rendered for all occupational diseases and occupational injuries, and an absenteeism report is secured on everyone who is away from work. Hospitalization service has ben provided during the past three years. The laboratory facilities of the State Department of Health are used. One of the most important parts of the service is that a nurse visits the home of each employee at least once a month.

Nursing Services in Industry

—Program for the Promotion of Part-time Nursing Services in Small Plants—

ON October 16, 1941, the Committee on the Development of Industrial Hygiene in Local Areas, of the National Conference of Governmental Industrial Hygienists, sponsored a meeting in Atlantic City, New Jersey, for the purpose of developing a plan whereby the services of local public health nursing agencies, such as the visiting nurse associations, could be made available to small plants which are unable to afford the services of a full-time nurse but which could profitably utilize the services of such associations. The meeting was attended by about 35 persons among whom were representatives from the Conference, four visiting nurse associations, the National Organization for Public Health Nursing, five state industrial hygiene bureaus, the Subcommittee on Industrial Health and Medicine, the Division of Industrial Hygiene of the National Institute of Health, and two insurance companies.

At this meeting the various aspects of the problem were discussed, and specific action was proposed. It was pointed out that in the United States, 95% of the industrial plants are plants employing 250 workers or less, and that 44.5% of the total labor force are employed in plants of this size. Only a very small percentage of these plants provide either full-time or part-time nursing services for their employees.

As a result of the increasing interest in industrial hygiene, particularly because of the national defense program, visiting nurse associations have realized the need for part-time nursing services in small plants in their communities and have become interested in offering their services to such plants. Although some visiting nurse associations have provided such services to a limited extent since 1903, these services have not been widely or fully developed. Public health nursing organizations and industrial hygienists therefore considered it essential, in order to further such a program, that (1) visiting nurse associations must be well prepared to provide the necessary services, and (2) that the most efficient method for establishing contact between the associations and the industries needing nursing services should be developed.

From *Industrial Hygiene*, issued by the Division of Industrial Hygiene, National Institute of Health, U. S. Public Health Service, Bethesda, Maryland.

With regard to the first point, a number of visiting nurse associations already have the necessary preparation and are successfully providing services to industry. In addition, the N.O.P.H.N. is developing an outline for a staff education program which visiting nurse associations may use in preparing their staffs to render such services. On the whole, the persons attending the meeting agreed that visiting nurse associations are in a position to offer their services to industry.

With regard to the promotion of these services, it was agreed that the most feasible plan would be for the state and local industrial hygiene bureaus to assume the leadership. These bureaus can acquaint industry with the necessity and value of providing nursing services for employees, and they can also keep visiting nurse associations informed as to the needs of particular plants in the community. It was emphasized that although the promotion of the program should be carried on by the official industrial hygiene agency rather than by the nursing association, the associations should inform these agencies as to the services which they are prepared to offer and, furthermore, should work in close cooperation with the state and local medical societies.

It was also pointed out that in areas where there are no visiting nurse associations, the state or local industrial hygiene bureau should encourage the "unit" or "team" system of providing medical and nursing services in small plants, that is, the system whereby one physician and one or more nurses divide their time among several small plants.

Because the visiting nurse associations have shown such great interest in providing services to small industries, particularly those now participating in the defense program, it was agreed at this meeting that state industrial hygiene bureaus should hold similar meetings in the near future in order to develop specific programs for their respective states. It was further agreed that another national meeting should be held after a year had elapsed in order to evaluate the progress which has been made.

Duties of Nurses in Industry

AT THE American Public Health Association's annual meeting which was held in Atlantic City, New Jersey, on October 14-17, the Public Health Nursing Section of the Association heard a progress report by its Committee to Study Duties of Nurses in Industry. The committee presented the results of a preliminary survey of the duties of 235 nurses in 109 establishments employing 232,500 workers. The results may be summarized as follows:

1. Nurses have written standing orders in 81% of the 85 establishments with physicians serving part time or on call.

2. Nurses assist with physical examinations, chiefly of women, in 67% of the 60 establishments with a pre-employment examination program.

3. Nurses give some assistance with chest x-rays and laboratory tests such as urinalyses, and blood counts in 32% of the 53 establishments offering this type of service to the employees.

4. Nurses are on night duty in 35% of the 81 plants working a night shift.

5. Plant nurses make home visits to employees in 54% of the 52 plants with this service.

6. There are nursing supervisors in 69% of the 20 plants employing three or more nurses.

7. Nurses in 32 plants reported they follow up on defects of employees to some extent.

8. Nurses in 23 plants reported that workers come to them concerning social service problems.

9. Accident records are available to the nurse for reference in all of the plants surveyed; sickness records in 72% of the 87 establishments maintaining such records; physical examination records in 93% of the 60 establishments with a pre-employment physical examination program.

10. Nurses submit daily, monthly, or annual reports in al but four of the establishments surveyed.

11. Nurses make out compensation reports in 59% of the establishments surveyed.

12. Nurses receive clerical assistance with records and reports in 41% of the establishments. in 12%, they do clerical work outside of the medical department.

13. Nurses assist with plant inspections in 55% of the plants surveyed.

Other activities in which nurses in industry engage include participation in Red Cross classes, safety meetings, accident investigations, and recreational activities; supervision or training of first-aid workers; inspection, management, or dietary assistance in plant lunchrooms; and educational activities such as talks, care of bulletin boards, and distribution of literature.

On the basis of this report, the Public Health Nursing Section voted to continue the study and authorized the committee to appoint an advisory committee to be composed of representatives of each of the industrial nurses' groups or clubs throughout the United States.

The Section also approved the committee's recommendation that the state departments of health with their divisions of industrial hygiene and/or public health nursing be asked to assume the responsibility for the collection of the data in the respective states, and that the Division of Industrial Hygiene, National Institute of Health, U. S. Public Health Service, be asked to assume the responsibility for the tabulation and analysis of the collected data and the printing of a final report.

Industrial and Community Health

A SYMPOSIUM on Industrial and Community Health, the first meeting of its kind, was held at Middletown, Connecticut, Friday, June 26, 1942, under the auspices of the Middletown District Nurse Association, in cooperation with the Industrial Section of the Connecticut State Nurses Association and the Bureau of Industrial Hygiene of the Connecticut State Department of Health. MISS WINIFRED HARDIMAN, R.N., presided as Chairman. The program was as follows:

Friday, June 26, 1942

UTILIZATION of Community Health Facilities:

1. DR. MARIO PALMIERI—"Utilization of General Health Facilities."

2. DR. A. L. BURGDORF—"Utilization of Specialized Community Health Services."

3. "How the District Nurse Association May Assist Industrial Plants"—MISS ELIZABETH G. FOX, R.N., Executive Director—Visiting Nurse Association—New Haven, Connecticut, President, Connecticut State Nurses' Association.

Importance of the Nurse in Industry:

1. To Plant Production—MR. O. HOYT TRIBBLE, Personnel Director, Gray Manufacturing Company, Hartford.

2. From the Doctor's View Point—DR. JAMES H. BIRAM, Colt Patent Fire Arms Company, Hartford.

3. In Home Visiting to Industrial Workers—MISS BERTHA STERLING, R.N., Industrial Nurse, Pratt & Whitney Manufacturing Co., West Hartford.

"Influence of the War on the Distribution of Nursing Service Personnel"—MISS MARION DOUGLAS, R.N., Director of Visiting Nurse Association, Hartford.

"Influence of the War on Industrial Health Service"—DR. CRIT PHARRIS, Industrial Hygiene Physician, Bureau of Industrial Hygiene, State Department of Health.

NEW BOOKS

Continued from page 396—

ability of Rates, Relationship of Disabling Sickness to Various Factors, with appropriate statistical tabulations and graphs, present the fundamentals of sickness absenteeism. Particular stress is laid on the necessity for uniform recording, careful analysis, and cautious interpretation.

FATIGUE AND WAR PRODUCTION (Flinn): Detailed findings of the U. S. Public Health Service's study of Fatigue in Truck Drivers are presented with a comprehensive discussion of the results, before which is outlined The Problem of Fatigue, Definition and Causes, Appraisal Methods. The individual human factors in fatigue and the length of the work week during the war period, the importance of nutrition, proper handling of personnel are also well discussed. In the recommendations, the role of the industrial and family physician is taken into account.

PREVENTION OF ILL HEALTH IN INDUSTRY (Foulger): The author's experience in the chemical industry is well adapted in the presentation of this paper, in the discussion of Ill Health Due to Exposures to Harmful Chemicals. The approach to these problems is well stated: "A program of preventive medicine cannot be based on branches of medical science used in diagnosing disease. It must rest upon *physiology*, which defines the usual (i.e., the 'normal') and allows detection of the least departure from that usual. The program cannot be based upon data which describe either lethal or highly injurious dosage as determined in experimental animals. It must rely upon facts which are so general that they apply to at least a majority of chemicals now in use or which may come into use. These facts cannot be deduced from chemical structure or physical properties of materials, new or old, for no general formula exists which makes such deduction possible." Blood pressure readings are made use of in this study to show changes which take place according to length and intensity of exposure to various chemicals. Contributing causes to ill health, including nutrition, medication, self-medication, extremes of temperature and humidity, unnecessary fatigue, disease and deprivation of oxygen are listed and discussed.

METHODS EMPLOYED IN THE APPRAISAL AND CONTROL OF INDUSTRIAL HEALTH HAZARDS (Bloomfield): Distinction is made between medical methods which are concerned with the individual and engineering methods which deal with the investigation of the environment —the latter are the basis for this article. Sanitary Survey, Occupational Analysis, and Detailed Scientific Survey Methods are described, and Control Methods are discussed. Appropriate illustrations and tabulations based on industrial hygiene engineering surveys are given as examples. The need for a study of existing control measures is emphasized, as well as the setting of basic standards, and the need for continuous study of environmental influences is mentioned.

INDOOR ENVIRONMENTAL ATMOSPHERE AND ITS CONTROL (McConnell): This considers the Regulation of Body Temperature and Effect of Weather on Body Heat; Physical Properties of Air and Effective Temperature (the factors of temperature, humidity and air motion with illustrations of apparatus for measurement). Ventilation and Air Conditioning are treated with especial emphasis on the wider application of air conditioning, and Deviations in Air Composition, as well as Disinfection of Air.

PROTECTIVE OINTMENTS AND INDUSTRIAL CLEANSERS (Schwartz): Of particular interest to the physician who works with industrial employees are the formulæ for protective ointments which are given by the writer of this paper, together with the composition of certain industrial protective creams, the physical and chemical action of detergents and wetting agents (with a list of the principal compounds of this type); the action of detergents on the skin; the action of solvents; the requirements of an industrial cleanser and a list of the ingredients in various industrial cleansers on the market, showing the name of the cleanser, manufacturer, and composition.

EFFECTS OF HIGH PRESSURES; PREVENTION AND TREATMENT OF COMPRESSED AIR ILLNESS (Behnke): This paper is based upon 10 years' systematic research by various official bodies of the problem of compressed air illness. Physiologic Effects are detailed, including a consideration of the effects of carbon dioxide, the value of helium, together with the etiology, symptomatology, diagnosis, prevention and treatment of compressed air illness.

THE PNEUMOCONIOSES (Gardner): Perhaps no subject has attracted so much attention as the pathology and disability which results from inhalation of injurious dusts by industrial workers. In this paper, the author considers the Etiology, the Mechanism of Benign Pneumoconiosis and Silicosis, with due consideration of the Roentgenologic Findings; the part played by tuberculosis in silicotic cases. Asbestosis is also given consideration with respect to x-ray findings, the relationship to infection, clinical course, complications, and diagnosis.

LEAD ABSORPTION AND LEAD POISONING (Kehoe): Of the heavy metals, perhaps lead has been of greatest importance as an industrial health problem. Evidences of occupational lead absorption as measured by urinary excretion, blood content, as well as fecal excretion, have been duly considered. The recognition of a dangerous lead exposure with the clinical picture and the frequency of the occurrence of physical signs in tabulations supply interesting data. Standards of measurement of safe lead exposure in industry are critically examined.

THE TOXIC PROPERTIES OF SELECTED LESS FAMILIAR METALS (McCord and Prendergast): This dissertation is of particular importance in our wartime program because of the increased use of the lighter metals and their alloys. The toxicity of the metals and their compounds is detailed, together with sources and uses, properties, nature of toxicity, prevention and treatment. This section includes chromium, magnesium, cadmium, manganese, barium, and antimony.

RECENT PROGRESS IN AVIATION MEDICINE (Jones): Tracing the progress of aviation medicine since World War I, the author refers to various bibliographies of aviation medicine. Anoxia and the Use of Oxygen, the Hazard of Carbon Monoxide, Oxygen Poisoning, and the "Paradox Effects" of Oxygen, are discussed. Details are given with respect to the administration of oxygen, including the kind of apparatus advisable, Aeroembolism (manifestations, diagnosis and treatment), Fatigue and Selection of Personnel for Flying, including selective tests for specific duties.

Comprehensive lists of references are included at the end of each paper, which will be useful collateral reading.

THIS edition of the "Medical Clinics of North America" should be of practical use to any physician (private or industrial) who has daily industrial problems, on which he can find material in this volume. The information will be useful not only to the physician who has been in industry for many years as a specialist, but also to those who are for the first time encountering the difficulties in this important field.

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SOCIAL SCIENCES

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